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said strap loop will engage said slide-back stopper, whereby said headrest will not move further along said strap in the direction away from said user's head.

(Ne)

Abstract: On page 17, line 4, replace "with straps or other suitable means" with "with straps or in another suitable manner".

REMARKS — General

Applicant has amended the specification to overcome the objection in the Office Action. Applicant has also re-written the claims to define the invention more particularly and distinctly.

AMENDED ABSTRACT COMPLIES WITH MPEP § 608.01(B)

By the above amendment, Applicant has re-written the abstract to comply with MPEP § 608.01(b). Therefore, applicant respectfully requests reconsideration and allowance of the abstract.

AMENDED CLAIMS ARE IN ACCORDANCE WITH 37 CFR 1.126

In the above amendment, Applicant has corrected the erroneous identification of the numbers of the claims, per paragraph 4 of the Office Action. All claims have been cancelled and rewritten as claims 11-20. Therefore, applicant submits that claims 11-20 are allowable and respectfully solicits reconsideration and allowance thereof.

THE OBJECTION TO THE CLAIMS UNDER 35 USC § 112 IS OVERCOME

The Office Action rejected claims 1-10 as being indefinite, stating that it was not clear whether the seat back was claimed as part of the invention. The amendment makes it clear that the claimed invention is for detachably engaging a seat back, and that the seat back is not a part of the invention.

Also, the Office Action stated that in claim 3, it was unclear if "means for wrapping around said back of said seat back" was intended to be the same structure as one previously set forth with nearly identical language. This claim, rewritten as claim 13, has been amended so as to be clear. The Office Action also stated that "the two ends of each" in claim 3 lacked proper antecedent basis. This portion of the claim has been rewritten as "the two ends of said straps".

As to claim 4, the Office Action stated that "the user" lacked proper antecedent basis. This claim, rewritten as claim 14, has been amended so as to be clear.

As to claim 10, the Office Action stated that “the transport of said strap loop” lacks proper antecedent basis. As rewritten in claim 20, this wording has been replaced with “movement of said strap loop”. The Office Action also stated that “the force exerted by the user’s head” lacked proper antecedent basis. This portion of the claim has been revised so as to be clear.

Therefore, applicant submits that claims 11–20 are allowable, and applicant respectfully solicits reconsideration and allowance thereof.

THE OBJECTION TO THE CLAIMS UNDER 35 USC § 102 IS OVERCOME

The Office Action rejected independent claim 1 on Fishbane (5630651), O’Connor (6123389), and Schreiner (5975638). Independent claim 8 (originally erroneously numbered as 7) was rejected on Fishbane. Claims 1 and 8 have been amended and rewritten as new claims 11 and 18. These claims define patentably over these references. Therefore, applicant respectfully solicits the reconsideration and allowance of these claims, for at least the following reasons:

Base portion is on opposite side of lateral support

As amended, applicant’s claims differ substantially from the headrests disclosed by Fishbane, O’Connor, and Schreiner. These references include a base portion that lies directly behind the user’s head. This base portion is variously described as a “headrest portion [with] cervical neck roll portion” containing an “occiput cavity” (Fishbane), a “frame member for supporting the back portion [of a person’s head]” (O’Connor) and a “center section” between two “foldable ends” (Schreiner).

The base portion of applicant’s headrest, however, lies on the opposite side of the headrest; the base portion is not behind the user’s head. The independent claims 11 and 18, as amended, distinctly claim a headrest with the base portion on the opposite side of the lateral-support portion versus the user’s head. The head of the user of applicant’s invention, therefore, directly contacts the seat back, unlike Fishbane, O’Connor, or Schreiner. Of the base portion and the lateral-support portion, the user of applicant’s invention rests his or her head only against the lateral-support portion.

(Note that what is herein referenced as the “lateral-support” portion or member is actually termed the “head-support portion” in applicant’s claims. This is because the lateral-support portion is the only portion supporting the head in applicant’s invention—unlike the plurality of members supporting the user’s head in Fishbane, O’Connor, and Shreiner. This, of course, is part and parcel of applicant’s superior functionality and structure. The term “lateral-support portion” is used herein for ease of comparison with these references.)

Claims 11 and 18—describing the opposite-side configuration of the lateral-support portion—define patentably over Fishbane, O'Connor, and Schreiner.

The opposite-side positioning of the lateral-support member is unobvious

The magnitude of the difference between applicant's invention and the prior art, and specifically Fishbane, O'Connor, and Schreiner, demonstrates that the novel configuration of applicant's invention is not obvious to a person having ordinary skill in the art. The unobviousness of the opposite-side positioning is indicated by at least the following:

- Applicant's invention produces new and unexpected results that are greatly superior to, and unsuggested by, the prior art.
- Until now, no one appreciated the advantages of applicant's invention, even though such advantages are inherent to the structure of the invention.
- Applicant's invention utilizes a new principle of operation.
- The prior art lacks any suggestion that the reference should be modified in such a manner as to meet the claims of applicant's invention.
- Applicant's invention is contrary to the teaching of the prior art.

In general support of the above-listed points, and before proceeding to discuss them individually, the advantages of the configuration of applicant's invention are reviewed.

Applicant's invention allows user to fully recline

The object of all such headrests is to aid the comfort of a user in an upright chair. Lateral support is needed because the chair does not fully recline. Therefore, it is desirable to allow the user to recline as much as possible. However, Fishbane, O'Connor, and Schreiner prevent the user from reclining as much as the chair will permit. This is because by having a member behind the head—as is the case with O'Connor, Fishbane, and Schreiner—the head is thrust forward. Forced into a more upright stance, it is more difficult for the user to fall asleep. Users of the Fishbane, O'Connor, or Schreiner headrests must trade the reclining for having their head and neck supported laterally. Users of applicant's invention, however, face no such trade-off. Lateral support and full dorsal recline are achieved simultaneously. With applicant's invention, the user's recline is limited only by the orientation and operation of the seat back, not by the structure of the portable headrest.

Applicant's invention does not require forward flexure of the spine

In thrusting the head forward, the Fishbane, O'Connor, and Schreiner headrests also require the forward flexure of the spine. That is, because the head-contacting surface of the base portion is not flush with the surface of the seat back, the spine must bend forward so that the user's chin is forced closer to his or her chest. Applicant's invention does not require such forward neck-bending. Because the base portion does not contact the user's head, the user's head lies directly against the seat-back surface.

A user may snuggle up or against nestle into applicant's invention to find greater comfort

Because the user's head directly contacts the seat back, the user will find a greater variety of comfortable positions against applicant's headrest, since the user need not find a comfortable spot between two members, but only against the lateral-support member. This functionality, especially when combined with the convex cushion in claim 12, allows the user to "snuggle up" against or nestle into applicant's headrest in a manner not possible with Fishbane, O'Connor, or Schreiner.

Prevents oblique yielding of lateral-support member

The opposite positioning of the base member in applicant's invention also increases the structural stability of the headrest when lateral force is exerted against it. When lateral force is exerted by a user's head against the Fishbane, O'Connor, or Schreiner headrests, the base member will tend to pull away from the seat back. That is, the exertion of lateral pressure from the weight of the user's head will cause the entire headrest to rotate on a vertical axis at the point where the base portion is connected to the lateral-support member. The lateral stability of such headrests thus depends entirely on the attaching means to the seat back. Yet detachable, adaptable means, such as straps, belts, or sheets, will allow some outward pulling. If the attaching means yield at all, the lateral member will be pushed by the user's head into a more oblique angle, thus lessening its capacity to laterally support the head. Pushed to a sufficiently oblique angle, the user's head will tend to roll forward and off the headrest.

With applicant's invention, however, when a user's head exerts lateral force on the lateral-support member, this does not cause the base portion to pull away from the seat back. Instead, the force exerted by the user's head pushes the base portion into the seat back. Thus, the exertion of a lateral force has the welcome consequence of actually reinforcing the lateral stability of the headrest. This helps to keep the plane of the lateral-support member perpendicular to the plane defined by the surface of the seat back, or, alternatively, to whatever angle the two planes define. The headrest will

not rotate on its vertical axis to a more oblique angle, because the base portion cannot push through the surface of the seat back.

New and unexpected results

The novel feature of having the base portion situated on the side of the headrest opposite the user's head is not suggested by Fishbane, O'Connor, or Schreiner, yet it produces surprising and greatly superior results. As discussed above, this structure increases stability and support, allows the user to more fully recline, and does not force the head closer to the chin.

Unappreciated advantages

Until now, those skilled in the art did not appreciate the advantages of the unique structure of applicant's invention, even though these advantages—allowing full recline, not requiring forward flexure, the variety in allowable orientations of the head and face, the prevention of oblique yielding—are inherent to the claimed structure.

Prior art teaches away

The prior art teaches away from applicant's invention. For instance, Schreiner teaches a base member as necessary to connect dual lateral-support members on either side of a person's head. O'Connor, who suggests an alternative embodiment with only one lateral-support member, nonetheless teaches a back member for supportably engaging at least a back portion of a person's head. Thus, based on the prior art, a person of ordinary skill in the art would not have thought to fashion a base portion on the opposite side of the headrest from the user's head.

Applicant's invention utilizes a new principle of operation

The greater stability and preferable orientation of the head that is possible with applicant's invention constitutes a new principle of operation. Fishbane, O'Connor, and Schriener's headrests all are similar in structure and function—one has followed another in as variations on the same theme. All have the same basic U- or C-shaped structure with a member behind the head flanked by lateral portions. Applicant's invention does not follow this structure, and instead takes a decidedly new path by allowing the user to lean all the way back against the seat back and nestle against the cushioning to find restful sleep.

No suggestion in the prior art

The prior art lacks any suggestion that the reference should be modified in such a manner as to meet the claims of applicant's invention. Fishbane, O'Connor, and Schreiner never suggest reconfiguring the structure of their headrests so that the base portion does not lie behind the user's head. Indeed, Fishbane, O'Connor, and Schreiner do not even hint that the base portion might not be best situated behind the head.

One-side-only support

Another novel feature of applicant's invention over Fishbane and Schreiner is that the headrest consists of one and only one lateral support portion. Neither Fishbane nor Schreiner suggest one-side-only support. The headrests disclosed by Fishbane and Schreiner contain the head on both sides. Yet bus, train, and airline travellers, as well as infirmed persons in geriatric chairs, commonly need lateral support on only one side of the head. Fishbane's and Schreiner's double lateral support thus forces user's heads into full alignment with the spine – not allowing the user to find a comfortable position leaning up against the lateral support. Fishbane's structure "maintain[s] the user's head in a straight and anatomically correct position ..." Schreiner's does the same. The distinct structure of applicant's invention, however, permits the freedom for the user to find his or her own most comfortable orientation.

The Dependent Claims Are A Fortiori Patentable Over Fishbane, O'Connor, and Schreiner

The Office Action rejected dependent claims 4, 5, and 6 (rewritten as 14, 15, and 16) as lacking novelty in view of O'Connor; dependent claims claims 2, 6, and 7 (rewritten as 12, 16, and 17) as lacking novelty over Fishbane, and dependent claims 5 and 6 (rewritten as 15 and 16) as lacking novelty over Schreiner. New dependent claims 12, 14, 15, 16, and 17 incorporate the subject matter of claim 11 and add additional subject matter, which makes them *a fortiori* patentable over these references. Therefore, and for the specific reasons outlined below, applicant respectfully requests reconsideration and allowance of claims 12, 14, 15, 16, and 17.

Claim 12 adds a convex cushion to the portion of the headrest that will contact the user's head and face. The convex cushion is entirely foreign to the references. In particular, the convex cushion of claim 12 is patentably novel over Fishbane. Fishbane's lateral supports are comprised of cylinders, not convex cushions. These cylinders extend outward from the seat back only a short distance. This will

allow the head to roll forward and around the lateral support portions. Claim 12 defines patentably over this reference. The convex cushion of claim 12 is a different shape than the cylindrical lateral elements of Fishbane's pillow. The convex or dome shape of applicant's invention allows the headrest to accommodate a variety of angles and positions relative to the user's face and head, including allowing a range of lateral bending of the neck. Fishbane's cylinders present a parallel surface to the user's spine, which, to the extent it would work, is then "maintaining the user's neck in a straight ... position". The lateral support of Applicant's invention is adequate to laterally support the user's head despite the head not being fully reclined.

Claim 14 adds a hinged joint so that the angle defined by the plane of the lateral-support portion and the plane of the surface of the seat back may be varied according to the user's preference. The hinged joint is unique in combination with the unique structure of applicant's headrest as independently claimed in claim 11.

Claim 15 adds a pivot so that the angle defined by the plane of the lateral-support portion and the plane of the surface of the seat bottom—that is, a plane perpendicular to that defined by the surface of the seat back—may be varied according to the user's preference. This pivot is foreign to O'Connor and Schreiner. In O'Connor and Schreiner, the use of the term "pivot" is made in reference to the same axis of rotation as the folding hinge operation. The exception is where O'Connor describes rotating the lateral-support members within a plane. Neither O'Connor's nor Schreiner's "pivots" disclose a means for changing the angle of the lateral-support member relative to the seat bottom, as does the pivot in claim 15.

Claim 16 specifies a right angle orientation of the base portion and the lateral-support portion. The right angle orientation is unique in combination with the unique structure of applicant's headrest as independently claimed in claim 11.

Claim 17 defines the invention of claim 11, but included within a single inflatable structure. Because claim 11, as amended, defines patentable subject matter over Fishbane, claim 17 is *a fortiori*, patentable over Fishbane. Further, Fishbane's headrest is not a single inflatable structure, but comprises various air bladders. The invention defined by claim 17 is simpler in structure, yet superior in functionality.

THE OBJECTION TO THE CLAIMS UNDER 35 USC § 103 IS OVERCOME**Claim 13 is patentable over Fishbane, O'Connor, and Schreiner in view of Franzen**

The Office Action rejected claim 3 as unpatentable over Fishbane, O'Connor, and Schreiner in view of Franzen (5630651). Claim 3 has been amended and rewritten as claim 13. Because neither Fishbane, O'Connor, nor Schreiner disclose nor render obvious the invention claimed in independent claim 11, the consideration of Franzen does not render obvious the invention claimed in dependent claim 13.

Further, claim 13 is not obvious because the references teach the desirability for a strap over the top. Two straps, running horizontally across the seat back, one above the other, act to stabilize the head rest vertically on the seat back. So stabilized, the applicant's headrest needs no strap over the top. This simplifies the headrest, allows it to be used with a greater variety of chairs, and permits the transverse repositioning of the headrest across the seat back. The desirability of such variable position is not recognized by the references because they concentrate on holding the head straight, in-line with the spine. Thus, not anticipating the advantages of one-sided lateral support, prior inventors could not foresee the advantages of being able to reposition the headrest horizontally on the seat back.

Further, Franzen's use of two straps is not apposite, since Franzen teaches the use of straps running vertically up and down the seat back, not horizontally. This orientation is inappropriate for geriatric chairs and all common airplane, bus, and train seats, because the seat back is abuttingly joined to the seat bottom, allowing no passage for vertically running straps. Franzen is also inapposite because Franzen intended a posture correcting device, rather than a headrest to provide comfort and support for persons in upright chairs. Thus, Franzen's device does not render the invention of claim 13 obvious to a person having ordinary skill in the art. Multiple unsuggested additional steps are required before one could build the invention of claim 13. Therefore, applicant respectfully solicits reconsideration and allowance of claim 13.

Claim 19 is patentable over Fishbane in view of Franzen

The Office Action rejected claim 9 (originally erroneously numbered as 8) as unpatentable over Fishbane in view of Claudy (529364) or Greenwood (486374). Claim 9 has been amended and rewritten as claim 19. Because Fishbane's specification does not disclose the elements of one-sided support, substantial non-cylindrical lateral support, or a base portion that does not lie behind the user's

head, the consideration of Franzen (5685613) does not render claim 19 obvious under 35 USC § 103(a). Therefore, applicant respectfully solicits reconsideration and allowance of claim 19.

Claim 20 is patentable over Fishbane in view of Claudy or Greenwood

The Office Action rejected claim 10 (originally erroneously numbered as 9) as unpatentable over Fishbane in view of Claudy (529364) or Greenwood (486374). Claim 10 has been amended and rewritten as claim 20. Because Fishbane's specification does not disclose the elements of one-sided support, substantial non-cylindrical lateral support, or a base portion that does not lie behind the user's head, the consideration of Claudy (529364) or Greenwood (486374) does not render claim 20 obvious. Therefore, applicant respectfully solicits reconsideration and allowance of claim 20.

Conditional Request for Constructive Assistance and Writing of Claims

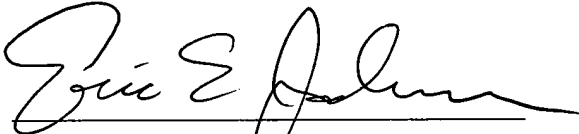
Applicant has amended the specification, abstract, and claims so that they are proper, definite, and define novel, nonobvious structure. If, for any reason, this application is believed not to be in full condition for allowance, applicant respectfully requests the constructive assistance and suggestions of the Examiner pursuant to MPEP § 2173.02 in order that the applicant can place this application in allowable condition as soon as possible and without the need of further proceedings.

Further, it is submitted that the applicant has clearly presented patentable subject matter. If the Examiner agrees, but does not feel that the present claims are technically adequate, applicant respectfully requests that the examiner write acceptable claims pursuant to MPEP 707.07(j).

Conclusion

For all the reasons given above, and on the basis of the amended specification, abstract, and claims, applicant respectfully submits that the abstract is in compliance with MPEP § 608.01(b), that the claims are in compliance with 35 USC § 112, and that the claims define patentable subject matter under 35 USC §§ 102 and 103. Accordingly, the applicant submits that this application is now in full condition for allowance, which action applicant respectfully solicits.

Very respectfully,

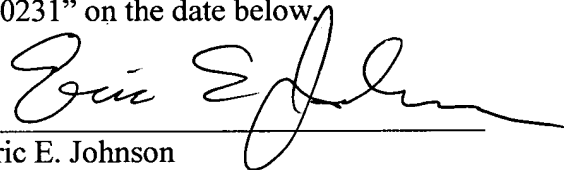


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Date: January 6, 2003



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